

US006319537B1

(12) United States Patent Cheng et al.

(10) Patent No.: US 6,319,537 B1

(45) **Date of Patent:** Nov. 20, 2001

(54) STABLE COFFEE CONCENTRATE SYSTEM(75) Inventors: Pu-Sheng Cheng; Ying Zheng; Serena

Laroia, all of Dublin; Wenjie Hu, Marysville; Rachid Rahmani, Columbus, all of OH (US)

(73) Assignee: Nestec S.A., Vevey (CH)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/453,932

(22) Filed: May 16, 2000

Related U.S. Application Data

(60) Provisional application No. 60/134,640, filed on May 18, 1999.

(51)	Int. Cl.	A23F 5/00 ; B65D 85/72
(52)	U.S. Cl.	426/594; 426/386; 426/387;
` ′		426/388: 426/119: 426/392

(56) References Cited

U.S. PATENT DOCUMENTS

3,810,999 *	5/1974	Balling et al
4,008,340	2/1977	Kung et al 426/651
5,087,469	2/1992	Acree
5,182,926	2/1993	Carns et al 62/352
5,384,143	1/1995	Koyama et al 426/546

5,688,545	* 11/1997	Sanders .	
5,897,703	4/1999	Hatakeyama et al	106/696
5,997,929	12/1999	Heeb et al	426/433

FOREIGN PATENT DOCUMENTS

489401 *	6/1992	(EP) .
0 861 596	9/1998	(EP) .
0 893 065	1/1999	(EP) .
0 934 702	8/1999	(EP).
2057894	4/1981	(GB) .

^{*} cited by examiner

Primary Examiner—Anthony Weier (74) Attorney, Agent, or Firm—Winston & Strawn

(57) ABSTRACT

A beverage system that contains a coffee base concentrate and coffee aroma for providing a coffee beverage. The coffee base concentrate has a soluble coffee solids concentration of at least 10% by weight and is free of coffee aroma. The coffee base concentrate and the coffee aroma are stored separately and are combined upon reconstitution for providing a coffee beverage. Separate store of the coffee base concentrate and the coffee aroma increases the stability of the system. The coffee base concentrate and/or aroma components may be further treated to improve stability, including for example adding alkali, and/or treating the coffee base concentrate to remove acid precursors, and/or protecting one or both components from oxygen, and/or storing one or both components at reduced temperature.

22 Claims, No Drawings